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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,735	03/08/2005	Horst Becker	ZHHZ 2 00019	7943
27885	7590	02/06/2009		
Fay Sharpe LLP 1228 Euclid Avenue, 5th Floor The Halle Building Cleveland, OH 44115			EXAMINER KASTLER, SCOTT R	
			ART UNIT	PAPER NUMBER
			1793	
			MAIL DATE	DELIVERY MODE
			02/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/508,735

Applicant(s)

BECKER ET AL.

Examiner

Scott Kastler

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18, 21-25, 29 and 36-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 21, 23-25 and 36-42 is/are allowed.
- 6) ☒ Claim(s) 43-47 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The above claim does not fairly further limit independent apparatus claim 18 because this claim recites only a manner or method of use of the claimed apparatus (use of the openings for either charging or discharging). However, it has been well settled that the manner or method of use of an apparatus alone cannot be relied upon to fairly further limit claims to the apparatus itself. See MPEP 2114.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 43, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagan in view of Osamu. Hagan discloses a moving heating furnace comprising a ring shaped heating chamber formed by inner and outer walls 1 and 2 and two closable openings 21 and 33 disposed in the outer wall of the furnace chamber. The chamber may be moved in either a clockwise or counter-clockwise manner (it should be noted that the claims as written do not require that the furnace be capable of both types of movement but only that the furnace be

adapted to move in either of a clockwise or counter-clockwise direction), and such openings would be capable of use as either charging or discharge openings. Hagen however, does not disclose a plurality of vertically movable doors. Osamu discloses a traveling hearth type furnace comprising a plurality of vertically movable doors 5 which divide the furnace into different divisions, for example heating and soaking zones. the doors create sections within the divisions, S1-S11, wherein temperature and atmosphere is individually controlled. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the furnace of Hagen with the doors of Osamu in order to facilitate different heat treatment zones within the furnace. In doing so, the two openings of Hagen would be adjacent to vertically movable doors. With respect to the number of treatment zones in instant claim 45, given Osamu's disclosure, it would have been obvious to one of ordinary skill in the art to create three treatment zones by optimizing the number of treatment zones divisible by the movable doors.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagan in view of Osamu, further in view of Kuehn. Neither Hagan or Osamu disclose a closeable opening adjoined on both sides by vertically movable doors. Kuehn, in disclosing a continuous furnace for heat treatment, such as a rotary hearth furnace, discloses an opening 4 for charging and discharging which is adjoined by two doors to form an enclosure (see Fig. 1 for example). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Kuehn's teaching of adjoining doors to a closable opening to the system of Hagan in view of Osamu in order to facilitate the conservation of temperature and pressure conditions of the adjoining heat treatment zones while creating a charging and discharging zone.

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagan in view of Osamu further in view of Barkman. Neither of Hagan or Osamu disclose the circumferential distance of the heating zone. Barkman discloses an installation for heat treatment of workpieces such as a rotating hearth furnace where the travel path of the workpiece charge is varied in order to achieve a particular heat treatment profile (see claim 1 for example). The travel path of the workpieces of Hagan is varied by the heat treatment zones and their respective lengths. In applying Barkman's disclosure to the system described by Hagan in view of Osamu, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the length of the treatment zones by constructing a heating zone which extends over a circumferential distance of between 90 degrees between the two closable openings in order to achieve a desired heat treatment profile.

Allowable Subject Matter

Claims 18, 21, 23-25, 29 and 36-42 are allowed. These claims are allowable over the cited prior art at least because, as argued by applicant in the response filed on 10/15/2008, none of the cited prior art shows or fairly suggests the use of a plurality of sluices adjacent respective first and second openings in the outer wall of a rotating hearth furnace, where such structure would allow for the use of either opening as the discharge opening.

Claim 22 would be allowable if rewritten to overcome the objection, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed on 10/15/2008 with respect to claims 43-47 have been fully considered but they are not persuasive. Applicant's argument that instant claims 43-47 are not shown or suggested by the applied references because the applied references do not show or suggest a rotating furnace which can be rotated in both a clockwise and counter-clockwise manner is not persuasive because the instant claims do not require that the furnace be able to rotate in both directions but rather require that the furnace be able to rotate "either clockwise or counter-clockwise" meaning that a furnace that rotates only in a clockwise manner, for example would meet this limitation.

Applicant's arguments, see the response, filed 10/15/2008, with respect to claims 18, 21-25, 29 and 36-42 have been fully considered and are persuasive. The rejections of these claims have been withdrawn at least for the reasons advanced by applicant.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott Kastler/
Primary Examiner, Art Unit 1793

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